

Information
WAC 173-434 amendments
030626

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What rule amendments are proposed?

Ecology has proposed to amend WAC 173-434, Solid Waste Incinerator Facilities. The amendments would significantly tighten the controls over incineration of solid waste, including MSW (municipal solid waste), other than creosote treated wood. The proposed amendments would tighten controls for incinerators from existing WAC 170-434 to those of the EPA's most stringent waste incinerator rules, 40 CFR 60 subpart Eb. In other words, the state rule would extend the applicability of the federal rule to a wider range of facilities. Invoking and extending subpart Eb should be construed as a tightening of chapter 434. The amendments would no longer include creosote treated wood in the amount of solid waste that would trigger the applicability of WAC 170-434. The amendments would recognize the *status quo* of incineration practices at cement plants.

How would the amendments affect the applicability of chapter 434?

The applicability of chapter 434 is slightly reduced by two narrow exceptions to the definition of "solid waste." The applicability of chapter 343 is probably not broadened by the cross references to certain EPA categories of waste that would be added to the chapter 434 definition of "solid waste".

- The burning of creosote-treated wood, such as railroad ties, would not count towards the twelve tons/day threshold that is an applicability criterion for chapter 434. This is provided that the creosote-treated wood is not salty, as are marine pilings or creosote-treated wood washed up on beaches. This is also provided that the burning subject of a permit issued under the applicability of the amendments. Of course, creosote-treated wood may nonetheless meet the definition of "solid waste" if it contains other substances that make it dangerous waste or some other element of "solid waste."
- Certain materials incinerated at a Portland cement plant would not count towards the twelve tons/day threshold that is an applicability criterion for chapter 434. These materials are tires as well as beneficial industrial by-products consumed as raw materials, such as bottom ash, slag, and gypsum boards.
- Certain categories of waste defined in EPA regulations are expressly included in the definition of "solid waste" in chapter 434. These are "MSW" in 40 CFR, part 60, subparts Ca, Ea, Eb, AAAA, and BBBB, as well as "industrial solid waste" in 40 CFR, part 60, subparts CCCC and DDDD. Since "solid waste" in chapter 434 is already defined so broadly, this probably does not expand the applicability of chapter 434.

How would the WAC affect the applicability of subpart Eb?

Where WAC 173-434-110 incorporates subpart Eb by reference, it does so in such a way that some of the applicability criteria of subpart Eb are broadened to coincide with those of chapter 434.

1. The applicability dates in Eb would not be affected.
 2. The size threshold would be lowered from 250 tons to 12 tons per day of MSW.
 3. The definition of MSW in Eb would be broadened to include solid waste, as defined in chapter 434.
 4. Three of the exceptions to the applicability of Eb would have no affect.
- 1) The threshold dates in the applicability section of Eb would remain unaffected. (Note that, as described elsewhere, the dioxin step down date would be changed for facilities under the 250 ton/day threshold of Eb.)
 - 2) Chapter 434 does not apply to facilities that incinerate less than 12 tons/day of solid waste. The threshold of Eb in Washington would thus be affectively lowered from 250 to 12 tons.
 - 3) Chapter 434 applies to solid waste incinerators. Solid waste includes municipal solid waste, and more. Subpart Eb would be broadened to cover the combustion of more variations of waste. (Note that, as described elsewhere, excluding creosote treated wood from the definition of solid waste in 434 would not alter the reach of Eb, since Eb itself excludes railroad ties and telephone poles.)

4) Several types of facilities are not subject to Eb by application of a list of exceptions in 40 CFR 60.50b. The proposed amendments exclude three exclusions of Eb, extending the effective applicability of Eb to

- 60.50b(i) metal recovery,
- 60.50b(j) 30% MSW cofire (e.g., the TSP),
- 60.50b(p) cement kilns.

These three inclusions (exclusions from the exclusions) are not retroactive, applying only to facilities constructed, reconstructed, or modified after the approximate adoption date of these amendments.

What facilities would the proposed amendments affect?

1. Facilities for which "construction commenced after September 20, 1994, or for which modification or reconstruction commenced after June 19, 1996."
2. Facilities subject to existing chapter 434.
3. Facilities burning more than 12 tons/day of creosote treated wood.
4. Portland cement plants.

There are two incinerators in Washington permitted to burn more than 12 tons per day of MSW and subject to chapter 434, the Tacoma Steam Plant and the Spokane waste to energy plant. There is at least one other facility that burns more than 12 tons/day of creosote-treated wood, Kimberly-Clark in Everett. The proposed amendments would not change the existing permission of the TSP to burn a fuel mix of up to 30% MSW, but would tighten the allowable emission standards.

1) EPA provides three subparts in its rules for large MSW combustors, 40 CFR, part 60, subparts Cb, Ea, and Eb. The subpart Eb dates provide for facilities for which "construction commenced after September 20, 1994, or for which modification or reconstruction commenced after June 19, 1996." The applicability date thresholds in subpart Eb follow upon the expiration of the applicability dates of subparts Cb and Ea. Any facility that meets the subpart Eb dates may be subject to the portion of amended chapter 434 that refers to subpart Eb. Any other facility may be subject to the remainder of chapter 434. The dates do not exclude the Spokane waste to energy plant, and possibly the Tacoma Steam Plant.

2) Every facility presently subject to the existing chapter 434 would continue as such with two differences, discussed below.

3) A facility subject to 434 due to the burning of creosote-treated wood would no longer be subject on that basis. Facilities that burn creosote-treated wood would not be drawn into the rule by that burning. Such facilities presently either restrain themselves from burning more than 12 tons/day, or they operate under a variance allowing more than 12 tons/day. Kimberly-Clark, Everett, is the principle, if not the only, facility affected by this proposed provision.

4) There are two cement plants in Washington, both in Seattle. They are Ash Grove and LaFarge.

How would the amendments affect facilities?

1. Tacoma Steam Plant
2. Kimberly-Clark
3. Spokane incinerator
4. Ash Grove and LaFarge cement plants

We know of only five facilities that the amendments may affect.

1) The TSP has heretofore been operating as an electric utility steam generating unit under 40 CFR, part 60, subpart Da. In 2002, the Pollution Control Hearing Board held the TSP to be subject to chapter 434. The inherent nature of the TSP combustion chambers renders it impossible for the TSP to burn MSW in compliance with the time and temperature requirements of WAC 173-434-160 while also meeting emission limits. The TSP can not economically operate without burning solid waste. These proposed amendments would allow the TSP to operate, as a practical matter. The TSP may need permission to burn other forms of solid waste, such as roofing tear-off, to operate economically. Even if it does not come under subpart Eb by way of the amendments, the TSP has expressed its intention of "opting in" to subpart Eb so that it can avoid the operating constraints of chapter 434.

2) Ecology granted K-C a variance allowing it to burn more than 12 tons/day of railroad ties without becoming subject to WAC 173-434. These amendments would not affect the burning that K-C has been engaged in since about early 2000, but would render variances unnecessary. Without the creosote amendment, K-C would have to either burn less than 12 tons per day, obtain continued variances, or comply with 434.

The history of the Kimberly-Clark facility demonstrates that creosote treated wood can be burned under rules other than chapter 434 without environmental detriment. This is documented in materials dated June 3, 2003, submitted to EPA in response to its requirement for a "relaxation analysis." These materials state how state and federal laws provide environmental protections redundant to those of WAC 173-434. The memo also presents emission test data showing that burning creosote treated wood did not significantly increase emissions. The SO₂ emissions were noted to be within the normal emission range for the boiler, which is subject to other more significant sources of variation. The SO₂ emissions were determined to be manageable below permitted emission limits of existing regulatory order number DE 98-AQI018. The information even indicates that the offsetting of other fuels by railroad ties reduces SO₂ emissions due to the higher energy content of the ties.

3) The Spokane waste to energy plant has heretofore been operating as an electric utility steam generating unit under 40 CFR 60 subpart Cb. Subpart Cb is a less stringent variation of Eb affecting older facilities. The Spokane incinerator is also subject to chapter 434. It may choose to opt in to regulation under subpart Eb requirements to avoid the substantive requirements of chapter 434.

4) There are two cement plants in the state. The ongoing practice of burning tires would be exempt from chapter 434. Also exempted would be the incineration of certain raw materials, such as ash, slag, and gypsum that do not burn, but contribute to the quality of the cement product. Thus, the *status quo* would be retained, but expansion would be subject to regulation.

How would the amendments tighten emission limits?

One emission limit in 434 would remain the same, the rest would be tightened, and several would be added. The standards would be set by reference to subpart Eb.

1. Chapter 434 has a PM standard of 46 or 67 mg/dscm, depending on the amount of solid waste burned, while Eb has a standard of 24 mg/dscm.
2. Chapter 434 has three opacity standards. The 10% standard, as measured by transmissometer, is as in Eb, though Eb does not specify transmissometer. The 5% limit is an artifact of trying to account for visual observations made with EPA's method 9, but will be retained, not superseded by the subpart Eb incorporation. The 0% limit for other than the incinerator stack seems to be a fugitive dust standard.
3. Chapter 434 has no cadmium standard, while Eb has a cadmium standard of 0.020 mg/dscm.
4. Chapter 434 has no lead standard, while Eb has a lead standard of 20 mg/dscm.
5. Chapter 434 has no mercury standard, while Eb has a mercury standard of 0.080 mg/dscm or 15% of potential.
6. Chapter 434 has an SO₂ standard of 50 ppmv or 20% of potential, while Eb has a standard of 30 ppmv or 20% of uncontrolled.
7. Chapter 434 has an HCl standard of 50 ppmv or 20% of potential, while Eb has a standard of 25 ppmv or 5% of uncontrolled.
8. Chapter 434 has no dioxin standard, while Eb has a dioxin standard of 30 then 13 ng/dscm.
9. Chapter 434 has no NO_x standard, while Eb has a NO_x standard of 180 then 150 mg/dscm.

Table 1: Comparison of emission limits		
	40 CFR, part 60, subpart Eb	WAC 173-434
PM	not applicable	67 mg/dscm (<250 ton/dy SW)
PM	24 mg/dscm (>250 ton MSW)	46 mg/dscm (>250 ton/dy SW)
opacity (6 min.)	10%	10% (transmissometer)
opacity	-	5% (visual)
opacity	-	0% (visual, other than incinerator stack)
cadmium	0.020 mg/dscm	no limit
lead	0.20 mg/dscm	no limit
mercury	0.080 mg/dscm or 15% of potential	no limit
SO ₂ (7% O ₂)	30 ppmv (daily) or 20% of potential (daily)	50 ppmv (1 hr) or 20% of uncontrolled
HCl (7% O ₂)	25 ppm or 5% of potential	50 ppm or 20% of uncontrolled
dioxin	30 then 13 ng/dscm	no limit
NO _x	180 1 st yr then 150 ppm	no limit
CO	50, 100, or 150 ppm, depending on combustor type	no limit

10. Chapter 434 has no CO standard, while Eb has a cadmium standard of 50, 100, or 150 ppm, depending on combustor type.

What sections would the amendments affect?

Once Eb is invoked by 434 for certain facilities, its provisions would apply in place of six specific sections of 434. The subject matter of those six section of 434 would be superseded by provisions in Eb that require more detailed planning, accountability, proficiency, oversight, and testing. The following table lays out the comparable sections side by side.

Table 2: Comparison of sections affected	
WAC 173-434	Subpart Eb, 40 CFR 60.50a, <i>et seq.</i>
-090 Operation and maintenance plan.	.54b Standard for municipal waste combustor operator training and certification.
-130 Emission standards.	.52b Standard for municipal waste combustor metals, acid gases, organics, and nitrogen oxides. .55b Standard for municipal waste combustor fugitive ash emissions. .56b Standards for air curtain incinerators.
-160 Design and operation.	.53a Standard for municipal waste combustor operating practices. .57b Siting requirements.
-170 Monitoring and reporting.	.58b(b), <i>et seq.</i> Compliance and performance testing. .59b(d), <i>et seq.</i> Reporting and recordkeeping requirements.
-190 Changes in operation. (SSB&U)	.58b(a) Compliance and performance testing. (SS&M)
-200 Emission inventory.	.59b(d), <i>et seq.</i> Reporting and recordkeeping requirements.

What other rules may the amendments affect?

1. Federal rules
 - a. 40 CFR part 60, subpart Cb (NOT be affected)
 - b. 40 CFR part 60, subpart Ea (NOT be affected)
 - c. 40 CFR part 60, subpart Eb
 - d. 40 CFR part 60, subpart AAAA
 - e. 40 CFR part 60, subpart BBBB
 - f. 40 CFR part 60, subpart CCCC
 - g. 40 CFR part 60, subpart DDDD
2. State rules
 - a. WAC 173-400-050(4) Commercial and industrial solid waste incinerators
 - b. WAC 173-400-050(5) Small municipal waste combustion units
 - c. WAC 173-400-115 Standards of performance for new sources
 - i. Subpart Ea

- ii. Subpart Eb
- iii. Subpart AAAA
- iv. Subpart CCCC

1.a.) Facilities subject to subpart Cb would not be affected by the amendments.

1.b.) Facilities subject to subpart Ea would not be affected by the amendments.

1.c.) The effective applicability of subpart Eb would be extended by the amendments, which is described elsewhere in this memo.

1.d.) Facilities subject to AAAA could be subject to subpart Eb under the terms of proposed WAC 173-434-110(2). This is because the definition of "MSW" in 40 CFR, part 60, subparts Ca, Ea, Eb, AAAA, and BBBB are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

1.e.) Facilities subject to BBBB that commenced construction after September 20, 1994, could be subject to subpart Eb under the terms of proposed WAC 173-434-110(2). This is because the definition of "MSW" in 40 CFR, part 60, subparts Ca, Ea, Eb, AAAA, and BBBB are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

1.f.) Facilities subject to CCCC with the capacity of 12 tons or more per day of CISW could be subject to subpart Eb under the terms of proposed WAC 173-434-110(2). This is because the definition of "industrial solid waste" in 40 CFR, part 60, subparts CCCC and DDDD, are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

1.g.) Facilities subject to DDDD with the capacity of 12 tons or more per day of CISW, that commenced constructed after September 20, 1994, could be subject to subpart Eb under the terms of proposed WAC 173-434-110(2). This is because the definition of "industrial solid waste" in 40 CFR, part 60, subparts CCCC and DDDD, are incorporated by reference into the definition of 'solid waste' in WAC 173-434-030. No such facilities are in Washington.

2.a.) See 1.g. above, upon which WAC 173-400-050(4) is based.

2.b.) See 1.e. above, upon which WAC 173-400-050(5) is based.

2.c.i.) See 1.b. above.

2.c.ii.) See 1.c. above.

2.c.iii.) See 1.d. above.

2.c.iv.) See 1.f. above.

How can I comment and participate?

A public hearing will be scheduled when the proposed rule amendments are published. Comments on the proposed amendments can be submitted during the comment period that will be announced when the proposed amendments are published. Questions may be directed to the regulatory agencies.

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